

WHAT IS CLAIMED IS:

1. A method for combining an anatomic structure and metabolic activity for an object, the method comprising:

acquiring a first set of images by scanning the object using a first modality;

acquiring a second set of images by scanning the object using a second modality;

fusing the first and second sets of images to form a fused volume;

identifying a region of interest (ROI) in the fused volume, the ROI corresponding to an organ of interest of the object; and

providing a viewing path through the fused volume at least partially following the ROI.

2. A method in accordance with Claim 1 further comprising:

inflating the organ of interest with at least one of gas and air to create a difference in density of the ROI from densities of regions outside the ROI.

3. A method in accordance with Claim 2 wherein identifying the ROI comprises identifying the ROI by distinguishing the density of the ROI from the densities of regions outside the ROI.

4. A method in accordance with Claim 1 wherein providing the viewing path comprises providing the ROI that may be viewed in both directions along the viewing path.

5. A method in accordance with Claim 1 further comprising preparing the object for a computed tomograph colonography.

6. A method in accordance with Claim 1 further comprising foregoing preparation of the object for a computed tomograph colonography.

7. A method in accordance with Claim 1 further comprising foregoing at least one of supine and prone computed tomography (CT) acquisitions.

8. A method in accordance with Claim 1 further comprising:

displaying the fused image; and

displaying at least one of an axial 2-dimensional (2D) CT image of the organ of interest, a sagittal 2D CT image of the organ of interest, and a coronal 2D CT image of the organ of interest.

9. A computer-readable medium encoded with a program configured to instruct a computer to:

fuse at least two of computed tomography (CT) data, single photon emission computed tomography (SPECT) data, and positron emitted tomography (PET) images to form a fused data set;

identify a region of interest (ROI) in the fused data set, the ROI corresponding to an organ of interest of an object; and

provide a path through the fused data set along which to view the fused data set.

10. A computer-readable medium in accordance with Claim 9 wherein the program is configured to:

determine whether the organ of interest is inflated with at least one of gas and air to create a difference in density of the ROI from densities of regions outside the ROI; and

execute if the organ of interest has been inflated.

11. A computer-readable medium in accordance with Claim 9 wherein to identify the ROI the computer program configured to distinguish the density of the ROI from the densities of regions outside the ROI.

12. A computer-readable medium in accordance with Claim 9 wherein to provide the path the computer program configured to provide a path from one point on an axial line passing through a center of the ROI to another point located on the axial line.

13. A computer-readable medium in accordance with Claim 9 wherein the computer program is configured to:

determine whether the object has been prepared for a computed tomograph colonography; and

determine whether the computed tomography colonography has been performed on determining that the object has been prepared.

14. A computer-readable medium in accordance with Claim 9 wherein the computer program is configured to:

determine whether the object has been prepared for a computed tomograph colonography; and

determine whether the computed tomography colonography has been performed on determining that the object has been prepared;

determine whether a PET scan has been performed on determining that the computed tomograph colonography has been performed; and

execute if the PET scan has been performed.

15. A computer-readable medium in accordance with Claim 9 wherein at least two of the CT data, the PET data, and the CT data, the computer program configured to fuse at least two of the CT data, the PET data, and the CT data to obtain a fused volume of a colon cavity, an inside wall of the colon, and an outside wall of the colon.

16. A computer-readable medium in accordance with Claim 9 wherein the computer program is configured to:

check whether a preparation of the object for a computed tomograph colonography has not been performed; and

execute if the preparation has not been performed.

17. A computer-readable medium in accordance with Claim 9 wherein the computer program is configured to:

check whether at least one of supine and prone CT acquisitions has been foregone; and

execute if at least one of the supine and prone CT acquisitions has been foregone.

18. A computer-readable medium in accordance with Claim 9 wherein the computer program is configured to:

instruct a display device to display a fused image corresponding to the fused data set; and

instruct the display device to display at least one of an axial 2-dimensional (2D) CT image of the organ of interest, a sagittal 2D CT image of the organ of interest, and a coronal 2D CT image of the organ of interest.

19. A computer programmed to:

fuse computed tomography (CT) images and positron emission tomography (PET) images to form a fused volume;

identify a region of interest (ROI) in the fused volume, the ROI corresponding to an organ of interest of the object; and

provide a viewing path through the fused volume at least partially following the ROI.

20. An imaging system for combining an anatomic structure and metabolic activity for an object, the imaging system comprising:

a radiation source;

a radiation detector; and

a controller operationally coupled to the radiation source and the radiation detector, the controller configured to:

acquire computed tomography (CT) images generated by performing a CT colonography;

acquire positron emission tomography (PET) images generated by performing a PET scan of a colon of the object;

fuse the CT images and PET images to form a fused volume;

identify a region of interest (ROI) in the fused volume, the ROI corresponding to the colon; and

provide a viewing path through the fused volume of interest partially following the ROI.

21. An imaging system in accordance with Claim 20 wherein the controller is further configured to:

determine whether the colon is inflated with at least one of gas and air to create a difference in density of the ROI from densities of regions outside the ROI; and

execute if the colon has been inflated.

22. An imaging system in accordance with Claim 20 wherein to provide the viewing path the controller configured to provide the ROI that may viewed in both directions.

23. An imaging system for combining an anatomic structure and metabolic activity for an object, the imaging system comprising:

a radiation source;

a radiation detector; and

a controller operationally coupled to the radiation source and the radiation detector, the controller configured to:

acquire computed tomography (CT) images generated by scanning the object using a first modality;

acquire positron emission tomography (PET) images generated by scanning the object using a second modality;

fuse the CT images and PET images to form a fused volume;

identify a region of interest (ROI) in the fused volume, the ROI corresponding to an organ of interest of the object; and

provide a viewing path through the fused volume at least partially following the ROI.

24. An imaging system in accordance with Claim 23 wherein the controller is further configured to:

determine whether the organ of interest is inflated with at least one of gas and air to create a difference in density of the ROI from densities of regions outside the ROI; and

execute if the organ of interest has been inflated.

25. An imaging system in accordance with Claim 23 wherein to provide the viewing path the controller configured to provide the ROI that may be viewed in both directions along the ROI.